Background Eftilagimod alpha (E) is a soluble LAG-3 protein binding to a subset of MHC class II molecules to mediate antigen-presenting cell (APC) activation & T-cell (CD4/CD8) recruitment/activation. By stimulating APCs with E, T cells are recruited, possibly leading to stronger anti-tumor responses than with pembrolizumab (P) alone, especially in tumors not overexpressing PD-L1. Herein we report results of the 1st line non-small cell lung carcinoma (NSCLC) cohort in the TACTI-002 trial.

Methods Pts with measurable, 1st line metastatic NSCLC unselected for PD-L1, warranting late-stage clinical investigation. Pts received 30mg E SC q2w for 8 cycles (1 cycle= 3 weeks) & then q3w for up to 1 year with P (200 mg IV q3w for up to 2 years). Imaging was done every 8 weeks & assessed by investigator. PD-L1 was assessed centrally (BICR), duration of response (DoR), progression-free survival (PFS), overall survival (OS), PD-L1 and IFN-gamma, safety & tolerability. Pts received 30mg E SC q2w for 8 cycles (1 cycle= 3 weeks) & then q3w for up to 1 year with P (200 mg IV q3w for up to 2 years). Imaging was done every 8 weeks & assessed by investigator. PD-L1 was assessed centrally (22C3 antibody). The study was powered to detect a 52% increase in ORR compared to historical results assessed by investigator. The study was powered to detect a 52% increase in ORR compared to historical results assessed by investigator. The study was powered to detect a 52% increase in ORR compared to historical results assessed by investigator. The study was powered to detect a 52% increase in ORR compared to historical results assessed by investigator.

Results From Mar 2019-Nov 2021, 114 pts were enrolled. Median follow-up was 13 mo (data cut-off Jul 1st 2022). Median age was 67 yrs (44-85) & 74% were male. ECOG PS was 0 & 1 in 37% & 63% of pts. Pts presented with squamous (35%) or non-squamous (65%) carcinoma and 93% had metastatic disease. All PD-L1 subgroups were represented (table 1). Pts received median 9.0 (range 1–18) P & 13.0 (1-22) E. 11 (9.6%) pts discontinued due to related adverse events (AEs). Common (≥15%) AEs were dyspnea (35%), asthenia (33%), decreased appetite (25%), cough (25%), anemia (23%), fatigue (21%), pruritus (21%), constipation (18%), nausea (17%), hemoptyis (16%) & diarrehha (16%).

Conclusions E + P is safe & shows encouraging antitumor activity in 1st line metastatic NSCLC patients unselected for PD-L1, warranting late-stage clinical investigation.

Acknowledgements We thank all the participating patients & their families.

We thank the dedicated clinical trial investigators & their team members.

Merck Sharp & Dohme LLC, a subsidiary of Merck & Co., Inc., Rahway, NJ, USA provided pembrolizumab for the study. Sponsored by Immutep.

Trial Registration The trial identifiers are TACTI-002 (sponsor code), IMP321-P015 (Sponsor code), Keynote-PN798 (MSD code), 2018-001994-25 (EudraCT) and NCT03625323 (ClinicalTrials.gov).

Ethics Approval This has been approved by relevant Competent Authorities, Ethics Committees, and Institutional Review Boards.